



BOARD OF EDUCATION.

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*Educational Pamphlets, No. 11.*

THE ORGANISATION OF PHYSICAL  
TRAINING IN SWEDEN, WITH A  
NOTE ON THE SYSTEM ADOPTED  
IN DENMARK.

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LONDON :  
PRINTED FOR HIS MAJESTY'S STATIONERY OFFICE,  
BY WYMAN & SONS, LIMITED, FETTER LANE, E.C.

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[1907]

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## PREFATORY NOTE.

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The national importance of the physical health of the people has been emphasised recently in the reports of Departmental Committees and Royal Commissions, and by the action of public bodies concerned with the improvement of the national physique and the maintenance of public health.

The crowded conditions of modern life, by curtailing the opportunities for free participation in outdoor games and rural pursuits, have made it incumbent upon all authorities responsible for the upbringing of children in the great centres of population to devise some organised system of physical exercise, which may secure for the growing generation that bodily development which can only come from the regular and proper activity of the organs and muscles of the human frame. The one serious obstacle to the effective establishment of such a system is the deficiency of suitably trained teachers. This question of training requires greater consideration than is perhaps at first sight apparent, for, in Elementary Schools, at any rate, it is not desirable to create a body of experts who will concern themselves solely with the bodily development of the children; yet, at the same time, the physical care of the boys and girls in our schools can only be set in its proper relation if it is undertaken by teachers who have certain aptitudes and specialised knowledge which are not possessed by every teacher.

It is not sufficient, however, that provision should be made for the formation of proper healthful habits during the all too short period of compulsory school attendance; it is still more important that opportunities and encouragement should be given for the preservation of such habits during those critical years in which youth develops into manhood. This is one of the most important problems connected with the physical well-being of the nation that await solution, but it is also one upon which no national conviction as yet exists as to the proper means of attack. In this connection the Note on Physical Training in Denmark, for which the Board are greatly indebted to Major Salmon, is very instructive. The system as it now exists in Denmark owes much to the work of the Swedish reformers.

So impressed have the Board been with the desirability of issuing some account of the development of the work begun by Ling that they directed Colonel Fox, their Inspector of Physical Training, to go to Sweden and report upon the system as it exists to-day. Colonel Fox was accompanied by Mr. C. J. Phillips, one of His Majesty's Inspectors of Schools, and the following paper is their joint work. The Board of course do not

necessarily endorse all the opinions expressed by these writers, but they feel assured that the Report will help to stimulate and guide public interest in this most important question. They have taken special steps to issue the Report this month in the hope that it may be of use in connection with the second International Congress on School Hygiene which is to meet in London in August and is to consider *inter alia* the whole problem of physical exercises for school children.

Office of Special Inquiries and Reports,

*July, 1907.*

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# THE ORGANISATION OF PHYSICAL TRAIN- ING IN SWEDEN WITH A NOTE ON THE SYSTEM ADOPTED IN DENMARK.

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## THE ORGANISATION OF PHYSICAL TRAINING IN SWEDEN.

### THE ORIGIN OF THE SYSTEM.\*

The Swedish system of physical training owes its origin to the work of Per Henrik Ling. Ling, who was born in 1776 and died in 1839, devoted the best years of his life to the task of devising a scientific system of bodily exercises, and much of the remainder to training a generation of teachers, through whom he hoped the knowledge of his system might gradually be spread throughout Sweden. With these ends in view, he endeavoured in the first place to make himself acquainted with all that was then known of the sciences of physiology, anatomy, animal mechanics, and hygiene, and in addition he investigated to the best of his ability both contemporary and historic methods of gymnastic training. Out of these materials he built up a harmonious system of physical development.

In 1813 his system was formally adopted by the Swedish Government, and the Central Gymnastic Institute opened at Stockholm, Ling himself being appointed the first Principal. Gabriel Branting, who followed Ling in the post of Principal of the Institute, developed his predecessor's theories more especially on the medical side, while Ling's son, Hjalmar, who succeeded Branting in 1858, devoted himself particularly to the study of pedagogical gymnastics.

It is to Hjalmar Ling that a great part of the arrangement and classification of gymnastic movements, as recognised by the Swedish system, is due. His father seems not to have had time ever to compile a really complete book on the subject which he had made his own.

Any attempt to describe the Ling system itself in detail would be clearly out of place here. Such a description could only be given, and then but in a fragmentary and imperfect manner, with the aid of a large number of diagrams. Apart from such text-books as exist on the subject there are many places in England where the system can be seen at work. In particular may be mentioned Madame Bergman Österberg's Physical Training College at Dartford Heath, Kent.

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\* A summarised translation of the work entitled "*Enseignement et Culture intellectuelle en Suède*, issued by the Swedish Government in connection with the Paris Exhibition of 1900, and giving a short sketch of the system of education in Sweden, appeared in Volume 8 of Special Reports on Educational Subjects. [Cd. 835]. 1902.

## CHARACTERISTICS OF THE SYSTEM.

Certain main characteristics may, however, be referred to.

Essentially the system is educational. It aims at training every part of the body in harmony, and avoids any exercise which may tend to produce one-sided development. For this reason it discourages the element of individual competition.

For instance, a team of Swedish athletes will claim to be judged on principles different from those which we are accustomed to apply in England. The fact that one member of the team excels in a short race, another in a long-distance race, and a third in some special feat of muscular strength, will not impress the Swedish critic unless each member can do well in several other events in addition to that in which he specially excels. Accordingly, the daily exercise in Swedish gymnastics is made to include movements of all the parts of the body in an orderly sequence. The Swedish gymnast's aim is not to prepare himself for a single or occasional effort of intense energy, but to make his whole body a ready instrument of his will in the affairs of daily life, no matter what be the nature of his occupation.

Apparatus is regarded strictly as a subordinate instrument used to increase or to define the effect of movements on the bodily organs, not as a means to exhibit startling feats of skill or daring, and still less for the purpose of making an exercise attractive from the spectacular point of view.

Again, in Swedish gymnastics the attention of the pupil is kept fixed upon what he is doing. Each movement is to be a deliberate act following upon the word of command. Rhythm and time are not as a rule helped by any musical accompaniment.

Lastly, inasmuch as the scientific study of the normal development of the human body necessarily involves the study of abnormal developments, medical gymnastics have come to be an important part of the Swedish expert's training.

## THE STATE'S METHODS OF CARRYING THE SYSTEM INTO EFFECT.

The Swedish Government, having accepted the Ling system of physical training and determined to foster its growth throughout the nation, had next to consider the machinery by which knowledge of the system and interest in it could best be promoted.

The first requirement was some means of providing a regular supply of expert teachers. The training of such teachers would clearly be a matter of considerable difficulty, and the provision of a large number of them either a very costly or a very gradual process. Ling's own suggestion was adopted, and it was determined to begin by training a small number of what we may call experts of the first grade. By the help of these it was thought possible to train subsequently a much larger number of teachers

less highly qualified than the others, but capable of doing good work under occasional supervision. For this purpose the Central Gymnastic Institute was founded. Some account of the working of this institution is given later on in this report. By this means it was hoped to provide in the course of time a regular supply of trained teachers whose efficiency would increase year by year as the system became more familiar and the number of first grade experts grew greater.

In attempting to estimate the success of this policy it must not be forgotten that large numbers of teachers who have been trained in Sweden find employment in other countries.

But it was not only necessary to provide a large number of teachers. It was most important to secure the status of the expert teacher, for on this would largely depend the estimation in which the gymnastics themselves would generally be held.

This problem has been solved with complete success.

The Central Institute is staffed mainly with military and naval officers, whose social standing is assured, and a high standard of education is insisted upon in the case of the students also. No male student may enter the Institute for a course of training unless he has passed the examination which would also qualify him for entrance to any University in Sweden, and a corresponding standard of education is required from women candidates for admission.

The result of this policy is that in Sweden the teaching of gymnastics is regarded as one of the liberal professions.

Having thus provided for the scientific training of expert gymnastic teachers and secured the status of the teacher and his profession, the Government next considered the method in which the services of these teachers could most effectively be employed. The obvious channels through which the work of the Central Institute might reach the nation as a whole were the Army, the Navy, the Universities, the Training Colleges for school teachers, and the schools themselves.

In the case of the Army and the Navy the plan adopted was to pass a certain number of officers annually through a course of training at the Institute. These could in turn instruct the men under their command.

At the Universities it was made obligatory that there should always be a fully-trained expert in gymnastics on the teaching staff.

The same rule was made for the Training Colleges for teachers and for the secondary schools.

The number of the primary schools made it impossible to insist on the same rule in their case, but, as will be explained further on, it has been found practicable to give to the teachers in primary schools such a training in gymnastics as justifies their recognition as experts also, though not of what we have called the first grade.

Having thus provided practically every school with a qualified gymnastic instructor of either the first or the second grade, it remained for the State to enact that gymnastic instruction should be compulsory.

A detailed account may now be given of the work done by the various institutions through which the physical training of the nation as a whole is controlled and directed by the State.

### (1) THE CENTRAL GYMNAS TIC INSTITUTE.

As has been said, the Central Gymnastic Institute at Stockholm is the headquarters of all the physical training in Sweden. The Institute is maintained by the State, and is said to cost the Government only some 50,000 crowns a year. A very small income is also derived from the fees paid by the patients who attend here for medical gymnastic treatment.

#### (a) *The Governing Body and the Staff.*

The governing body, or directorate, consists of a president and three other directors representing respectively the Army and Navy, Medicine and Education. The directors are appointed by the Crown, and serve for as long or short a period as they please. No salary is attached to the post of director.

Immediately under the directors is the principal, who is responsible to them for the efficiency of the Institute. The present principal is Professor Törngren, one of the highest living authorities on physical training, who has held the position for some twenty years. Next to the principal come two other senior officers, Colonel Balk, a distinguished soldier and enthusiastic supporter of every form of athletic sport, and Professor Murray, whose special work is to supervise the medical side of the training. In addition to these chief officers, there is a staff of some sixteen experts, including five women, most of the men being military officers.

#### (b) *The Course for Men.*

The students this year (1906-1907) number about seventy men and sixty women. The course of training for men is divided into three years.

Successful completion of the first year's course qualifies the student for recognition as "Instructor" in physical training. In addition to passing through a course of practical gymnastics and military exercises, the student has to attend lectures on hygiene, anatomy, physiology, etc., and he learns to some extent the art of teaching gymnastics by handling classes of boys who come to the Institute from neighbouring schools for their physical training. This teaching is under the supervision of the Institute's staff of experts.

The single year's course is taken mainly by military and naval officers, who subsequently return to their regiments, ships, depôts,

etc., and are able under supervision to train their men. The course lasts for about eight months, ending in April.

The second year's course follows upon what has been done in the first year, going, however, more into detail. The practical work is more advanced, and the instruction in theory is carried a good deal further. In order to be admitted to the second year's course, all students have to pass an examination in theory and practice, part of the examination being held by the instructors of the Institute and part by the directors themselves. After passing successfully through the second year's course, the student is recognised as "Teacher" of gymnastics, and is qualified to hold a post as expert gymnastic master in a school.

The third year's course follows upon the second as the second upon the first; and entrance to it is obtained through another examination. In this year special attention is paid to medical gymnastics, and the students get their practice in this by attending to patients who come to the Institute on payment of a small fee to be treated for various complaints. The work of the students is, of course, under the supervision of the medical experts on the Institute's staff. Completion of the third year's course qualifies as "Director" of physical training.

The conditions of entrance to any part of the course at the Institute are, in the case of men, that all candidates must, as has been already pointed out, have passed the examination which qualifies for entrance to a Swedish University. This corresponds in standard approximately—so we were informed—to the intermediate examination at London University. No candidate may be more than thirty years of age, and for most the actual age of entrance is fixed by various circumstances at not less than twenty. Certificates of physical fitness are also required before candidates can be admitted.

### *(c) The Course for Women.*

For women students the course is for two years only. As they do not learn fencing or other military exercises, to which the men devote a considerable part of their time, it is found possible to include more theoretical work, physiology and medical gymnastics, in the first and second years of the women's course than in the corresponding part of the men's. It is interesting to note that the course of training for men and that for women are identical, except that women do no fencing and are not expected to exhibit so great a degree of strength in certain exercises. But though there is no difference in kind between the two courses, the physiological differences between the sexes are fully and frankly dealt with in the lectures, and every care is taken to see that trained experts from the Institute shall be able, when they come to teach, to make such modifications in the exercises as sex differences may seem to require.

In order to enter the Institute as students, the women candidates must produce evidence of having received an education corresponding to that required of the men and similar evidence of physical fitness for gymnastic training. The entrance age for women is twenty. The women get opportunities for practising the art of teaching gymnastics in the same way as the men.

When once admitted to the Institute the students get all their instruction free of charge. They have, of course, their own food and lodging to provide.

The primary function of the Institute is to supply experts competent, not only to give instruction in gymnastics, but also to train teachers of the subject. The staff are, however, further entrusted with the duty of inspecting the physical training throughout the country. Naturally, with so small a staff, it has, as yet, not been found possible to organise regular and thorough inspection of all the schools in Sweden by experts from the Institute, but progress is being made steadily, and there are now five inspectors of physical training in different districts, all acting under the control of Professor Törngren.

Naturally there is considerable competition, especially amongst women who intend to adopt gymnastic teaching as a profession, for entrance to the Central Institute, right of admission to which is practically a free scholarship.

In order, therefore, to increase their chances of success in application for admission a good many candidates attend a preparatory class held in the gymnasium of one of the secondary schools in Stockholm, and taught by one of the Institute's staff. For this they pay a fee. We were enabled to see this class at work, preparing with a view to admission to the Institute in the coming autumn (1907).

## (2) DR. ARVEDSON'S INSTITUTE.

Should a candidate be unsuccessful in her application for admission to the Central Institute she has still an alternative road to recognition by the State as an expert gymnastic teacher. This is by attending for two years at the Physical Training College for Women, presided over by Dr. Arvedson. This institution is private, and its work consists mainly of medical gymnastics, but it is inspected by the Central Institute's staff, and its certificate is accordingly recognised by the State.

We were invited by Dr. Arvedson to be present at the final inspection of his outgoing students on the completion of their course. A full table of exercises of an advanced type was gone through by the students, who numbered thirty, with great energy and skill.

As this Institution is self-supporting, and therefore cannot exercise so free a choice in accepting or rejecting students as the State-supported Central Institute can, it is inevitable that the

average material here can hardly attain to the level required by the Central Institute, but certainly the standard of work reached by the end of the course is exceedingly high.

Dr. Arvedson's students get practice in teaching gymnastics, just as do the students at the Central Institute, in the public elementary schools in Stockholm. This work is done by the students under supervision by one of Dr. Arvedson's staff.

### (3) THE UNIVERSITIES.

Each University, Uppsala, Lund, Stockholm, and Gothenburg, has, as has been previously noted, a trained gymnastic instructor on its staff, but attendance at this instruction is optional, and most of the students, who continue their physical training at all, appear to prefer various branches of sport to the more exact and formal gymnastics.

### (4) TRAINING COLLEGES FOR TEACHERS.

We were enabled to visit several training colleges, the first being a college where women are trained to teach all subjects, except gymnastics, in secondary schools.

Here the regulations require that half an hour a day shall be given on six days in the week to gymnastics, but from May till about the middle of October strict training in the gymnasium is abandoned and out-of-door games are substituted. The teacher of gymnastics at this college is an expert trained at and on the staff of the Central Institute.

Gymnastics are taken by the students solely with a view to their own physical well-being. It is no part of their duty to teach the subject in the secondary schools, in all of which there is a specialist on the staff. The gymnastic teacher here has also the task of teaching the girls in the practising school attached to the college.

Regular gymnastic instruction was over for the session, and we could only see some outdoor games, which were played with more vigour and enthusiasm, though in a most inadequate playground, than was generally the case elsewhere.

Our next visit was to a training college for women teachers in primary schools. This college is mainly intended for training teachers in junior schools and classes (*i.e.* where the children are from seven to nine or ten years old), and the college course is for one or two years only instead of the four years of training required from teachers in schools for older children. The time given to gymnastics here was said to be three-quarters of an hour three times a week.

In such an institution, it must be remembered, the majority of the students will probably never have to teach formal gymnastics at all, inasmuch as in the junior schools the children are considered to be too young for serious methodical training on the orthodox

lines, and gymnastics to them mean free games, orderly marching in and out of school, training in healthy attitudes at the desks, etc. Formal gymnastics are only taught to the students at such a college in order that they shall not be disqualified in this respect from undertaking posts in schools for older children if opportunity for such employment should arise.

The work of the class which we saw illustrated the great difficulties which even an able and energetic teacher has to face in training raw material at a fairly late age. The students were mostly country girls who would normally return to country schools. Not unnaturally they seemed to take but little interest in the real gymnastic work, though they evidently keenly enjoyed the games which they were learning to teach. Their physique seemed decidedly below the average, though it must be remembered that the average in Sweden is so high that such a comparison may well be misleading.

On another occasion we visited a training college for women teachers, where the full four years' course lasting from about 18 to 22 years of age is taken. Here the actual time given to gymnastics is twenty minutes a day every day.

We saw a class of third-year students go through their daily practice. They were divided into two groups, each of which was directed by one of the students, the whole being under the supervision of a most capable teacher, who is, as always in such a case, a fully qualified expert from the Central Institute. The material here was better than in the last-mentioned college, and the work of a much higher type.

Afterwards a class of fourth-year students worked under the direction of the expert teacher herself, and gave a most creditable exposition of the system.

The plan by which the students in this college are taught to teach as well as to practise gymnastics struck us as very sound and sensible. During the first year the student is a learner only. In her second year she begins to take her turn in directing the work of a small class of her fellow-students under supervision. In the third and fourth years she learns to handle classes of children who attend the practising school attached to the college. In this way each teacher has, by the time her college career is finished, had at least two years of carefully supervised practice in teaching gymnastics to children as well as four years' practice in actually going through the exercises herself.

It must be remembered that a large number of students have, when they enter the training college, never been inside a gymnasium before. The only practice they have had has been in free exercises taken without apparatus and often in unfavourable circumstances.

Lastly, we saw a training college for men teachers in public elementary schools. Here we were able to see two classes at

work. The senior class consisted of fourth and third-year students, numbering some forty men. The regular teacher, a captain, was away with his regiment, and his place was taken temporarily by a lieutenant, both being fully qualified as expert gymnastic teachers. The physique of the men was very good and their work admirable, combining vigour with precision in a remarkable degree.

The junior class consisted of thirty-five second and first-year students, who also gave a creditable display.

The time for gymnastics here is half an hour a day for three days, and three-quarters of an hour a day for the other three days in the week.

Here again the students are largely drawn from country districts, and, when they enter the college, are quite unaccustomed to gymnastic apparatus. At first, therefore, they have to be taught almost individually. They do not begin to teach the subject themselves to children in the practising school until the fourth year of their college career. As a condition of entrance to the college, each student has to satisfy the authorities that he is physically fitted for gymnastic work, and should he subsequently, by any accident or other cause, become unfitted to take part in the practical exercises, he is still required to be present at the gymnastic lessons and to give instruction in the subject to boys in the practising school in his turn.

In this way the State hopes to secure that every teacher in every public elementary school in Sweden shall have a considerable knowledge of the principles and practice of physical training according to the national system.

### (5) HOLIDAY COURSES.

But it is clear that teachers, especially those who work in country schools, will tend to grow rusty, removed as they are from contact with the practice and theory of the system. This is particularly the case in such a country as Sweden, where great distances often separate one village from another.

To meet this difficulty, a system of holiday courses has been instituted, and it is hoped that the system will spread more and more as time goes on.

These holiday or, as they are called, "repetition" courses have been in existence for the last four years. They are held during the long summer vacation and at centres chosen so as to serve as wide an area as economically as possible in each case.

Sometimes the State defrays the whole cost of the course. In other cases the local authority will come forward and offer to contribute half of the necessary funds, and whenever a local authority is prepared to make such a contribution the Government always endeavours to arrange a course in that authority's area. The course lasts as a rule for a fortnight. This year (1907) fourteen such courses have been already arranged, eleven of them

being for men and three for women teachers. This year is the first occasion on which women's courses have been organised.

The instruction is given generally by a trained expert, usually an officer, paid by the State. We understood that the payment amounts to ten crowns a day. Each member of the class, unless resident in the town where the course is being held, is entitled to a small sum (fifty crowns) from the State as a contribution towards the expenses incurred in attending the course.

The classes are small, twenty students being the largest number allowed in a class.

## (6) SECONDARY SCHOOLS.

### (a) *Boys.*

The State prescribes that in every secondary school for boys not less than three hours a week shall be given to gymnastics, but this may be arranged in either of two ways. In some schools half an hour a day is regularly given, and this is considered the better arrangement of the two. In other schools four lessons are taken in the week, each being of forty-five minutes' duration. This arrangement is, however, regarded as being to some extent a concession to meet difficulties in arranging the time-table, it being an essential part of the Ling system of training that regular exercise should be given every day.

The second requirement of the State is that in every secondary school, whether controlled entirely by the Central Government or only in receipt of a grant-in-aid, the teacher of gymnastics shall be a trained expert.

Theoretically a student who has successfully completed two years of training at the Central Institute is qualified for recognition as teacher of gymnastics in a secondary school, but in practice a large number of the teachers are drawn from the third-year students whose chances in competition for such posts are naturally greater than those of their less highly trained colleagues.

In the higher classes of the boys' schools, in addition to the time required to be set apart for regular gymnastic training, two lessons, each of three-quarters of an hour in length, are given weekly in fencing and other military exercises, and instruction in rifle-shooting is compulsory and universal.

Brief accounts may be given of three typical secondary schools, one in Stockholm, one in Gothenburg, the third in Gäfle. The Norra Latin School in Stockholm we visited on several occasions, and it is difficult to believe that anywhere else could the physical training of boys on the Swedish system be seen in a higher degree of excellence. The teacher is Major Silow, an officer who seemed to combine intimate knowledge of the system itself with unflagging enthusiasm for the task of teaching it. More than once his class consisted of over 100 boys. On these occasions the class would be split up, for some of the exercises, into sections, each under the

leadership of a monitor picked out of the class by the teacher on account of special excellence in gymnastics. The work of the whole class was closely supervised by the teacher himself.

In this way it is found possible to put every boy through a large number of varied exercises in turn without the loss of time so often involved in teaching a large class. Nor, again, does this method simply amount to teaching several separate classes at once. In many of the exercises, especially in the marching, the running, and the respiratory exercises with which each lesson begins and ends, the whole class, including the monitors, is taken entirely together. The monitor system is adopted with no less success in the younger classes than with the older boys.

Major Silow also showed how games of all kinds, into which the boys entered with enthusiasm, can be introduced into the gymnastic lesson without departing from the broad division and sequence of movements which the Ling system prescribes for a table of daily exercises. In this school the alternative arrangement, by which four lessons of three-quarters of an hour's length are given to each class, is adopted.

In the second typical school, at Gothenburg, we saw, in addition to an ordinary gymnastic lesson given to a class of younger boys by the expert teacher, the daily practice of a gymnastic club. This club consists of some forty boys, who take special interest in gymnastic work, and give up part of their spare time to practice in addition to attending the regular lessons in school hours. Within the limits of tactful supervision, the club is allowed to govern itself, and the practice lesson at which we were present was directed from beginning to end by one of the boys without any intervention on the part of the expert teacher. It was one of the best exhibitions we saw in Sweden.

In the third school, at Gëfle, the work was in the hands of Captain Swedlund, another enthusiast as well as expert. Here, again, the classes were often very large, but, just as at the Stockholm school, there was no waste of time. Each boy was working steadily through a regular table of exercises, the only pauses being those made by the whole class simultaneously at the word of command.

#### *(b) Girls.*

In the secondary schools for girls we saw more of the organised games than of the regular gymnastic training. These games are dealt with later on, (*see* below page 15).

One very interesting visit was paid to a school in Stockholm. The school consists of two sections. In addition to the ordinary girls' school, where the children enter at seven and leave at eighteen, there is a section consisting of girls who have had the first part of their education at public elementary schools. These enter the secondary school at fourteen for the most part and leave at seventeen. Great difficulty is found in carrying on the general education

of these two types from the age of fourteen on anything like the same lines, and some of the extra time which the ex-elementary scholars require for other subjects is taken from their gymnastic lessons. The majority of the girls get the ordinary half hour a day for six days a week, while the ex-elementary scholars get only three lessons of forty-five minutes.

This school is also used as a practising school for women students from the Central Institute, some of whom come here for regular practice in teaching gymnastics, though always under supervision by an expert. After the practice lesson the expert gathers his students together and goes through what has been taught, encouraging criticisms and suggestions of all kinds from the students as well as offering them himself. The students take notes, and any point on which discussion arises can be practically illustrated on the spot.

In all work of this kind, even when ably supervised, it is of course largely through her mistakes that the student learns, and these mistakes must be made at the expense of her pupils, but the constant presence of the supervising instructor reduces the number of such mistakes to a minimum.

#### (7) PUBLIC ELEMENTARY SCHOOLS.

In the case of the Public elementary schools, even more than in that of the secondary schools, the organisation of physical training can best be illustrated by brief accounts of typical institutions.

The schools chosen are a large well-equipped school in Stockholm, a similar school in Gothenburg, a mixed school, a boys' school, and a girls' school, all three in Gëfle, a large village school in a manufacturing district, a smaller school in a neighbourhood which is partly urban and partly rural, and lastly a completely rural school at a considerable distance from any town.

In all of these the State controls the physical training in three ways. Swedish drill is compulsory for all children unless excused on medical authority, from the age of nine or ten till fourteen, while organised games, orderly marching in and out of school, occasional free exercises to secure hygienic attitudes at the desks, are insisted on for the younger children.

All such schools are liable to inspection, without notice, by officers from the Central Institute on behalf of the State, and, most important of all, the teachers have had regular and practical training in the system throughout their college careers. No special grant is made for physical training, but the greater part of the expense incurred by the local authorities in connection with teachers' salaries is paid by the State, and it is through this fact that the Government's requirements in the matter of physical training can in the last resort be enforced.

The large public elementary school in Stockholm, chosen as our first typical institution, consists of some 2,000 children and about

seventy teachers in all, thirty or thirty-five children being considered as many as a single teacher can really handle successfully.

In the lower part of the school, where the children's ages range from seven to ten, organised games of the kindergarten type are taken, real gymnastics being thought too severe a training for children at this age. These classes are mixed, but when real gymnastics begin boys and girls are taught separately. In a well-equipped school such as this there is a gymnasium for each sex. In most places the instruction is given by the class teacher, but in Stockholm there is nearly always a trained specialist on the staff of the school as well. The time given to the subject is three half hours a week in the lower and middle parts of the school, and four half hours in the upper classes. We saw some classes drilled by the specialist and others taken by the class teacher, and for all practical purposes the children entrusted to the care of the class teacher seemed to be in quite as good hands as were the others. This is not surprising when it is remembered that the class teacher in a boys' school has probably had a considerable amount of training in his own school days and a certain amount of further instruction while serving his time in the army, as well as four years of very thorough training in college.

No special costume is insisted on for the children, apart from gymnastic shoes, which the local authority provide gratis. This is absolutely necessary for the sake of keeping the gymnasium floor clean, as well as for the sake of greater ease and freedom in the gymnastic exercises themselves.

Compulsory school hours are for the morning only, but optional courses are often held in various subjects in the afternoons. These courses frequently include extra gymnastic teaching.

The second typical school was a newly-built and elaborately fitted up institution in Gothenburg, containing between three and four thousand children. Here physical instruction is given in a large separately built gymnastic hall, which can be divided, when necessary, by a movable partition into two separate gymnasiums for boys and girls respectively.

The girls' class was taken by a member of the school staff, who had also been through the course at the Central Institute. The boys were taken by their ordinary class teacher, whose work impressed us as did that of his colleague in the Stockholm school referred to above. The Gothenburg school authority also employs a specialist who acts as peripatetic teacher in the primary schools of the town. The time given to gymnastics in this school is two lessons a week, each of three-quarters of an hour.

In the third school, a large mixed school in Göttingen, we saw two classes, one of boys and the other of girls, who were attending an optional course in the afternoons. This is in addition to the ordinary lessons in school hours, which are given three times a week for half an hour at a time. Each class was taken by its ordinary

teacher, there being no expert, in the strict sense, on the staff. In some cases a teacher who is specially interested in the subject takes other classes besides his own. Here, for instance, the gymnastic work of twenty-five classes is shared amongst twenty members of the staff.

A class of boys from another school in the town went through their ordinary lesson in a central gymnasium used jointly by those schools which have none of their own.

The third of the Gëfle schools was one for girls only. Here the gymnasium had been built as a recent addition to a school originally planned without one. The roof was low and the windows came down within a few feet of the floor instead of being high up in the walls as is usually the case. One class, which was admirably handled by its teacher, took its ordinary lesson in formal gymnastics. Another gave a very pleasant exhibition of national dances and songs.

Gëfle illustrates in a very interesting manner the policy adopted by the Central Government in fostering the growth of physical education. The absolute requirements seem to be fixed at a minimum standard consistent with real efficiency, and the spread of interest in the work is left largely to the personal influence of individual enthusiasts.

Hence it is possible to trace the growth of the movement in a town like Gëfle by the varying grades of efficiency in buildings and apparatus that exist among the schools. Schools of the newest type will have a fully equipped gymnasium, or even two. Those of an older type will have a room built and fitted with gymnastic apparatus. An older kind still, where no addition or adaptation is possible, will share in the use of a central building.

The next school, or rather group of schools, was in a large village which has grown up round an important centre for the manufacture of steel, and is inhabited mainly by people employed in the steel works. Here there are three elementary schools which have the joint use of a central gymnasium for their physical instruction. The gymnasium is well built and fully equipped with apparatus.

We saw a class of sixty boys and a class of girls equally large. Each class was taught by its ordinary teacher and the work was thorough as well as spirited. Here the children get five lessons of three-quarters of an hour each week.

At a village on the outskirts of Gëfle we visited a school where there was no gymnasium or apparatus of any kind. The drill was taken in an empty class-room, and the teachers were all class-teachers. There did not seem to be very much interest taken in the work, though regular tables of exercises were gone through in the ordinary sequence. Only three lessons a week, and those of twenty minutes, are taken here.

The last school was a typical rural school. There was no gymnasium and not even an empty class-room available, so that the drill

had to be taken at or in between the desks. The time given here is nominally fifteen minutes a day on five days in the week. Naturally in the circumstances, which appear to be those which prevail in most country schools, not very much can be done.

Both from what we saw for ourselves and from what was told us by those most competent to speak on the subject, we realised that the success or comparative failure of the physical training in the public elementary schools depends largely upon the question whether the local authority and the district inspector are keenly interested in the subject or not, and still more on the question whether the teacher is an enthusiast or indifferent.

The system itself is identical in all the schools, but there is plenty of room for difference between one school and another in the way in which it is carried out.

#### (8) ORGANISED GAMES.

A great deal has been done of late years to encourage games of all sorts in Sweden. In many schools strict gymnastic training is abandoned during the spring and summer time in favour of organised out-of-door games, and indoor games are often played during the winter months also.

The strict adherents to the Ling system of physical training are accustomed to look with some suspicion upon the substitution of games for gymnastic exercises on a wholesale scale, fearing the change may lead to one-sided development of the body in place of the harmonious expansion of all the physical powers which is the aim of the Swedish system.

There does not, however, appear to be any essential inconsistency between the aims of those who cling closely to the orderly scientific training of the Ling system and those of the advocates of games of what we may call the English type. Both sides would probably agree that a short time given daily to gymnastic exercises can well be combined with the practice of free games so long as there is no mutual exclusion.

As has been said, games of the kindergarten type take the place of regular gymnastic training in the lower parts of all schools. It was impossible not to wonder while watching these games how far the children, and especially the boys, really entered fully into the play.

In the higher parts of the elementary and in the secondary schools games like prisoner's base, rounders, basket-ball, sling-ball and a sort of tennis, played with tambourines instead of rackets, seemed to be the favourites.

Throughout we were impressed by the fact that unless the organised games were directed by an exceptionally gifted teacher the organisation tended to kill the game. In one or two places we were fortunate enough to see such exceptional teachers at work, and

in these cases all the children entered with zest into what was going forward. But elsewhere the play seemed to be confined to one or two children, the rest taking but an occasional interest in the matter.

The organisation of games has been carried out with remarkable completeness and success in Gothenburg. A committee of persons specially interested in this work undertakes the organisation of outdoor sports for adults as well as children, and the municipal authority co-operates in a very practical manner in the scheme. Some eight or nine open spaces belonging to the town are lent to the committee without charge by the city authorities, who make in addition an annual grant of 12,000 crowns to the maintenance of the sports. The committee employ a number of specialists to teach games to the adults, and extra payment is made to the school teachers for giving similar instruction to the children from the elementary schools.

The materials for the various games are kept in pavilions on each ground and given out as required by a superintendent, also in the employment of the committee. To prevent loss of material through carelessness or dishonesty, a system of tickets has been adopted which seems to work admirably. If, for instance, a boy wishes to go skating, he takes to the superintendent a ticket on which his name, the name and number of his school and class are written, and in exchange he gets the loan of a pair of skates. It is thus easy to hold the right boys responsible if some out of a large number of pairs of skates are missing.

Power is given to the committee and its officials to prohibit bad language and the drinking of intoxicating liquors on the grounds on pain of the expulsion of the offender.

#### (9) MEDICAL INSPECTION OF SCHOOL CHILDREN.

Closely connected with the subject of physical training is that of medical inspection of children in school, to which great importance is attached in some parts of Sweden. The amount of inspection is left mainly to the local authority to determine, and varies consequently in different localities.

In the secondary schools the rule seems to be that each child shall be examined by a doctor twice a year, apart from the occasional examination of individual cases reported from time to time by the school staff. It must be remembered that in these schools, where the teacher of gymnastics has had a considerable amount of training in the elements of physiology, hygiene, etc., a good deal can safely be left to the teacher before the medical specialist need be called in.

In the primary schools in big towns medical inspection seems to be very thorough indeed. In Stockholm each child on entering

the school is measured and weighed under the supervision of the school doctor, who is supposed to visit each school once a fortnight. Anything which the class teacher has noticed about the bodily condition of any of his pupils is reported to the doctor, who examines the child and enters the result of the examination on the medical record-sheet which is kept for each child throughout its school career. Serious cases can be immediately drafted to the hospital.

During the child's second term at school, another inspection by the doctor takes place, in which special attention is paid to the eyes, nose, ears, throat, and, this year for the first time, to the teeth.

Similar inspections take place at the end of three years and five or six years of the child's school life, the results being in each case carefully recorded and compared with previous reports.

Girls on reaching the age of puberty are able to ask advice from special lady doctors.

Similar arrangements are made in varying degrees of thoroughness in other towns and in some country schools; but in most of these last it has as yet not been found possible to organise medical inspection.

#### (10) OTHER FEATURES OF ORGANISATION CONNECTED WITH PHYSICAL TRAINING.

Another interesting feature of school organisation in the towns is the school bath. In several towns these baths are provided on an elaborate scale. In most of those which we visited the bath consisted of hot air rooms, shower baths and plunge baths. The children bathe periodically—once a fortnight being the rule in many places—under very practical supervision by special attendants. This opportunity is taken for inspecting, and, when necessary, treating, the children's clothes.

In some localities the teaching of hygiene and elementary physiology is compulsory in the higher classes of the schools, the lessons being illustrated by excellent models of the human body.

Cookery teaching is also very thoroughly organised in many town schools. In some of these the girls are divided into groups or families of six, each family working independently of the others and having its own stove, dishes, plates, and other utensils.

Free meals are often supplied in necessitous cases, the food being cooked in the school kitchen.

A great deal of physical training is also involved in the manual work, which seems to be almost universal in the schools.

In the town schools excellently fitted rooms for wood, metal, and cardboard work are to be found, and at a visit to a small and remote country school, where only two rooms were available for the older children, we found one of these rooms given up to manual training.

We were told that such an arrangement is quite common in the country schools.

Rifle-shooting, again, is very commonly practised in the higher classes of the elementary schools, though it is not compulsory.

#### CONCLUSIONS ARRIVED AT FROM THE STUDY OF PHYSICAL TRAINING IN SWEDEN.

The practical conclusions to which we were led by what we saw of the Physical Training in Sweden are as follows :—

- (1) That without in any way interfering with the organisation of national games, it should be possible gradually to initiate systematic training (including apparatus) on Swedish lines for children above the age of nine years in our schools.\*
- (2) That such training could most easily be given precisely where physical exercises are most urgently wanted, *i.e.*, in the towns, where the difficulties of providing gymnasia are less serious than in country districts.
- (3) That the provision of a supply of teachers able to give this training must, in any case, be a gradual process, beginning with the creation of a body of highly qualified expert instructors. The work of these instructors would be to train future generations of teachers.

G. MALCOLM FOX,

*Colonel. Inspector of Physical Training under  
the Board of Education,  
Late Staff Inspector of Army Gymnasia:*

C. J. PHILLIPS,

*One of H. M. Inspectors of Schools.*

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\* Provision is already made in most elementary schools under the Code for the free movements which are alone suitable for children under that age

# APPENDIX I.

TIME-TABLE SHOWING THE DAILY WORK AT THE CENTRAL INSTITUTE, STOCKHOLM.  
FIRST YEAR'S COURSE FOR MEN.

Morning.				Afternoon.		
—	7-8.	9-9.45.	9.50-10.50.	11-11.55.	1-1.45.	1.55-2.45.
Monday -	Practical pedagogical gymnastics.	Anatomy.	Practice in teaching gymnastics to schoolboys.	Fencing.	Military instruction.	Fencing (broadsword, etc.).
Tuesday -		Pedagogical gymnastics.			—	Fencing (broadsword, etc.).
Wednesday -		Pedagogical gymnastics (theory).			Anatomy.	Fencing (broadsword, etc.).
Thursday -		Anatomy.			Military instruction.	Fencing (bayonet).
Friday -		Fencing (foils).			—	Fencing (bayonet).
Saturday -		Pedagogical gymnastics (theory).			—	Fencing (bayonet).
						Practice in teaching gymnastics to schoolboys for those who did not have it between 9.50-10.50.

APPENDIX I.—*continued.*

## SECOND YEAR'S COURSE FOR MEN

Morning.			Afternoon.				
7-8.	8.55-9.45.	9.50-10.50.	11-11.50.	12-1.	1-1.45.	1.55-2.45.	2.50-3.50.
—		Practice in teaching school children.	Fencing.	—	Theory of gymnastics.	Fencing.	Practice in teaching school children for those who did not have this in the morning.
Monday -	Physiology.		Fencing.	—	Anatomy.	Fencing.	
Tuesday -	Medical gymnastics.		Anatomy (dissection).	Fencing.	—	Theory of gymnastics.	
Wednesday -	Physiology.		Fencing.	—	Theory of gymnastics.	Fencing.	
Thursday -	Medical gymnastics.		Fencing.	—	Anatomy.	Fencing (bayonet).	
Friday -	Anatomy.		Anatomy (dissection).	Fencing.	—	Theory of gymnastics.	
Saturday -							

# APPENDIX I.—*continued.*

## THIRD YEAR'S COURSE FOR MEN.

Every Day { 7-9.—Medical gymnastics for paying patients.  
 12-1.—Anatomy, physiology, theory of disease, etc.  
 1-3.—Theoretical and practical medical gymnastics (practice with non-paying patients).

## FIRST YEAR'S COURSE FOR WOMEN.

Morning.		Afternoon.			
	7-7.55.	9-9.45.	10-10.45.	11-11.45.	12-12.55.
—	Practical medical gymnastics.				
Monday - - - - -	Theory of medical gymnastics.	—	Practice in teaching school children.		
Tuesday - - - - -		—	Anatomy.	Theory of pedagogical gymnastics.	Theory of pedagogical gymnastics.
Wednesday - - - - -			Physiology.		
Thursday - - - - -	Anatomy.		Theory of pedagogical gymnastics.		
Friday - - - - -	Physiology.	—	Theory of gymnastic movements.	Anatomy.	Practice in teaching children from primary schools.
Saturday - - - - -					
					Practice, for those who have not had this at any other time, in teaching children (secondary school children).



## APPENDIX II.

The cost of fitting up a Swedish gymnasium with apparatus varies widely in accordance with the degree of completeness aimed at. In one large school the whole of the apparatus had cost only about £100. Details are given below as to the cost of equipping the Eton gymnasium :—

	£	s.	d.
44 sections of wall bars - - - - -	68	0	0
6 beams to hoist against wall with counter-weights in one end ; 6 uprights against wall with channels behind for counter-weights ; 6 moveable uprights, with troughs, and covers with specially-constructed hinges and latches.	120	0	0
6 troughs of copper* - - - - -	83	10	0
6 double beams to hoist against wall with counterweights -	33	10	0
3 loose beams (fitting between opposite moveable uprights and completing span across gymnasium).	3	18	0
3 stowage places for loose beams - - - - -	2	0	0
2 [4] three-row vertical ladders - - - - -	12	17	0
8 hooks for ladders - - - - -	2	14	0
1 horizontal ladder hanging by wire ropes and hoisted for stowage with tricing lines.	9	5	0
4 single oblique ropes - - - - -	21	0	0
4 tackles for tautening oblique ropes - - - - -	4	10	0
4 tricing lines with two blocks each for hoisting oblique ropes.	5	4	0
16 [24] vertical climbing ropes - - - - -	26	16	0
8 hooks for 8 vertical ropes - - - - -	2	15	0
4 tricing lines for hoisting vertical ropes - - - - -	5	4	0
4 hooks for tricing lines - - - - -	14	0	
3 [6] rope ladders - - - - -	7	10	0
6 hooks for rope ladders - - - - -	2	0	0
1 tricing line for hoisting rope ladders - - - - -	1	6	0
2 hooks for tricing lines - - - - -	6	10	
6 [12] saddles with self-locking mechanism - - - - -	7	15	0
Shelves for stowing saddles - - - - -	1	5	0
11 long benches, with balance rails and hinged hooks - -	20	5	0
1 [2] horse with castors and adjustable legs - - - - -	17	2	0
1 [2] buck with castors and adjustable legs - - - - -	10	2	0
1 [2] vaulting box with leather-covered top - - - - -	6	14	0
Jumping stands, with line fitted with weights and flag -	3	4	0
44 number-plates for wall bars - - - - -	1	17	6
Packing cases - - - - -	23	14	0
<i>Note.</i> —The figures in square brackets show the numbers necessary for the complete equipment as it will be. This complete equipment will also include medical gymnastic apparatus.	504	18	4

\* A special fitting, with a view to protect the wooden troughs from warping. The floor of the Eton gymnasium is little above flood level of the river. Such troughs do not form part of a usual equipment.

## NOTE ON THE SYSTEM OF PHYSICAL TRAINING ADOPTED IN DENMARK.\*

The foundation of Danish Gymnastics was laid by Nachtigall in 1789. While working as a candidate for Holy Orders he was most anxious to introduce physical training into the National Schools; he was, however, persuaded by King Frederick VI. to abandon the Church for the Army and to introduce gymnastics through the latter. Nachtigall founded an academy for military gymnastics (which still exists) and adopted the German system started by GutsMuth. Later on a special school was started for teachers, but owing to want of funds its duration was short; the military system held its own and teachers were trained in the academy until 1898.

Gymnastics were made compulsory for boys only, in all schools, by the Education Code of 1814; they were not received with much favour and as a matter of fact were little practised. Their unpopularity was due partly to the fact that the instructors were Non-commissioned officers, who at that time were men of inferior education, and also because of the prevalent idea that the ulterior object was to train boys for the Army.

They continued to be so regarded until the establishment of the People's High Schools and Shooting Associations; these kept at first to the military system of gymnastics, but soon found it unsuited to a large majority of the people. It became evident that unless a better system were devised, physical training would not flourish. With this in view, Mr. Rasmussen and Mr. Bendtsen visited the great Scandinavian Fêtes in Stockholm in 1882, and there saw a system which they realised was quite suited to their own national requirements. After this Mr. Rasmussen, who had qualified as an engineer, determined to try and set the new form of training going in Denmark, and with this object he went to Stockholm in 1883 and attended a four months' course at the Royal Gymnastic Central Institute. On his return he worked for a couple of years at the Vallekilde High School, where the first gymnastic hall on the Swedish model was built. His work was so successful that in 1885 he decided to go through a further two years' course at the Central Institute, Stockholm. In the same year Captain Norlander brought over 30 students from the University of Lund, and gave an exhibition of the Swedish methods at various places in Denmark. At his invitation, twelve picked Danes, one of whom was Herr Knudsen (the present State's Inspector of Gymnastics) went over to Lund to learn their system. After a course of two months they returned and introduced the new

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\* For information regarding the system of education in Denmark, see a paper in *Special Reports on Educational Subjects, Recent Educational Progress in Denmark*. By J. S. Thornton. Vol. 1. (Cd. 8447. 1897); and also *Schools Public and Private in the North of Europe*, by the same author. Vol. 17. (Cd. 3537. 1907.)

gymnastics into several People's High Schools, which received them with enthusiasm. In a short time all the People's High Schools and most of the Shooting Associations followed suit. This led to a sharp conflict between the adherents of the old and new systems, in consequence of which the Government nominated a Commission of three, to go first to Stockholm and then to Germany to inquire into the different methods. On the publication of their report, the Government appointed a second Committee of seven to compile a new manual of school gymnastics. Five members of this Committee were in favour of the old Danish methods, and only two were champions of the Swedish drill; their Chairman was a State Inspector and he was opposed to any change. In spite of this inequality of numbers, they took nine years to fight the question out, and the manual published as the result of their labours was somewhat of a compromise, but one in favour of Swedish exercises.

With the publication of the manual in 1899, the Committee proposed that an institute similar to that in Stockholm should be erected in Copenhagen, and a two years' course established without medical gymnastics. This proposal was, however, rejected for pecuniary reasons; but a certain Professor Olrik, who was head of the Institute for the further training of teachers in the National Schools, offered, if a grant of money were allowed, to set about the training of men and women as gymnastic instructors in his institute. Herr Knudsen, who had meanwhile been through a complete course in Stockholm, was appointed leader of this new Department at the Training College in 1898, and he remained there till 1904.

In order to give the schoolmasters an opportunity of learning the work practically, according to the book, under instructors from the first year's course at Olrik's, one month summer vacation courses were started. The first of these was attended by only 30 teachers, but the number increased in 1900 to about 270, and thus the Swedish system won its way in the schools. In 1905, Captain Bondo, of the Military Academy, and Herr Knudsen prepared, at the request of the Secretary for War, a joint manual of new Regulations, to ensure similar systems in the schools and Army. This book is now in use, pending the publication of a more complete edition by Herr Knudsen.

#### VOLUNTEER SHOOTING UNIONS.

The same impulses that led to the establishment of the People's High Schools\* gave rise to the Volunteer Shooting Unions. A desire to recover the territory lost in 1864 was strong in the nation; the impossibility of such an achievement was soon realized, but the associations grew, and there was a general determination to strengthen the nation physically and morally. Though called

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\* For an account of the People's High Schools in Denmark see Special Reports on Educational Subjects, Vol. 17. Schools Public and Private in the North of Europe. By J. S. Thornton. (vi. People's High Schools.) Cd. 3537. 1907.

"Shooting Associations," shooting and gymnastics (at first military) have gone hand in hand from the beginning. The Union is partly supported by the State; it numbers about 60,000 members, chiefly country people; of these about 17,000 men practice gymnastics. The annual grant paid to the Central Union Committee for distribution amounts to 55,000 kroner (£3,060). It is apportioned as follows:—

For Gymnastics	22,000 kroner,	about	£1,225
„ Rifles	9,000	„	„ £ 500
„ Ammunition	24,000	„	„ £1,335
	<hr/>		<hr/>
	55,000		£3,060
	<hr/>		<hr/>

(N.B.—£1 equals 18 kroner.)

During the intervals between the men's and women's terms at the People's High Schools, a class in gymnastics only is held, and from the students of this class come many of the volunteer instructors. There are at present 215 instructors who have graduated at this one month's course. We watched a class of young men of the Dons Shooting Union at gymnastics; their movements were carried out with great precision and agility. In the same gymnasium, we also saw exercises performed by girls, all servants in various farms in the neighbourhood. It was a pleasure to see them work; their movements were devoid of all clumsiness, and done with evident enjoyment. They were quite at home in horse-vaulting, cord-jumping, etc., and were drilled by the same instructor as the men. Dons is a few miles from the town of Kolding, and has a population of about 300.

#### INSTRUCTORS.

Instructors in gymnastics are now provided as follows:

1. *By the Seminaries for Teachers.*

All men and women desirous of becoming teachers must go through a four years' course at a special Training Institute, of which there are 16 (4 Government and 12 private.) At these institutions, gymnastics are taught from four to five hours a week (two or three hours practical, two hours theory.)

2. *By Short Courses of One Month.*

These are held at various centres during the summer holidays. Those attending are given free board and lodging, railway passes and free instruction. Many teachers, ex-seminarists included, avail themselves of these classes, and may attend as often as they like, to refresh their memories, under the same conditions.

3. *By a State Course of One Year.*

This course is carried on in Mr. Rasmussen's private gymnasium in Copenhagen, which he has lent to the State for ten years.

The course lasts from 1st September to 30th June, 15th July to 31st August. During this course, swimming, fencing and shooting (for men students) are taught. Each student has half an hour daily in the water. They consist almost entirely of two classes, viz.:—

(a) Schoolmasters or schoolmistresses actually serving. Those wishing to attend send in their names to the Minister of Education; preference is given to those who are the best scholars, not necessarily to those who may seem specially likely to make good gymnasts.

(b) Students who have just completed their course at a seminary and have not yet been posted to a school.

The average number attending yearly has been twelve men students and eighteen women.

Of the men eight draw pay in lieu of salary, some from 300 to 400 Kroner per annum, others (the married ones for instance) up to 600 Kroner per annum.

Of the women students only four or five at present receive pay.

It will be seen, therefore, that although instruction is free, the students undergo a pecuniary loss, the schoolmasters in that they have to provide a substitute during their year's absence, and the ex-seminarists by losing the pay as schoolmasters which they might otherwise have been drawing. But this loss is accepted with the knowledge that a "State Course" certificate will guarantee their being transferred or posted to a Copenhagen school with its better pay and prospects.

A half-yearly report on the ability and progress of each student is forwarded by the State Inspector to the Minister of Education.

4. By ex-N.C.O.'s who have been through the long course at the Military Gymnasium.

5. By those who have been through a short course at one of the People's High Schools.

#### INSPECTING STAFF.

This consists of a State Inspector and two assistants. This number is not, however, nearly sufficient, there being about 4,000 schools to be inspected. The Government hope shortly to increase the Inspectorate.

#### GYMNASIUMS.

Copenhagen has some 50 gymnasiums, belonging to the Elementary Communal Schools, besides those privately owned and the Military Gymnasium. There are 800 outside the capital divided amongst some 3,000 schools. Slagelse and Davinde,

with a population of 5,000 and 300 respectively, have well-equipped gymnasiums.

Great attention is paid to the cleaning of these gymnasiums, for it is well recognized how dangerous it is to teach breathing exercises if the pupils are to inhale particles of dust from the floor. In most of them a narrow tin trough of water is kept, over which hangs a mat of sacking or felt; at the end of each lesson the floor is cleaned by the pupils, who drag the wetted mat over it, thus collecting all the dust. The wooden floors themselves are dressed with linseed oil to prevent the absorption of water.

#### DRESS.

The Elementary Communal Schools supply one gymnastic dress and pair of shoes to every four girls of similar size, and shoes only to the boys. The best shoes are those made of leather with elastic over the instep; they cost about  $\frac{2}{3}$  per pair and last about 18 months. They are usually stored by sizes in lockers on a wall of the gymnasium, with wire net-work doors to give necessary ventilation. The younger girls wear a bodice and knickers made in one piece like a bathing dress; the older ones have full knickers, something like a short Turkish pantaloon, or the same dress as the younger ones with the addition of a small skirt. The boys evidently take a pride in their turn out. There was considerable uniformity in their dress, and in some schools they agree to wear white cotton shirts and blue drill trousers, or blue jerseys and white trousers of some cheap material.

#### BATHS.

Almost all schools in Copenhagen, including the elementary, and many in the country, have baths in the form of a large heated room with cement floor and good shower-bath sprays for hot and cold water. Bathing is compulsory once a fortnight for both boys and girls. Soft soap is used, and where the children are unable to provide their own towels, they are provided by the school. Children of schools which have no bath attend one which has. From the end of June till the opening of the summer holidays, all gymnastics are suspended in those schools which lie within easy reach of the sea, or of the great Copenhagen swimming bath, and the hours usually devoted to gymnastics are spent in swimming. Their regular instructors becoming swimming-masters (for all gymnastic certificates include knowledge of swimming). In Copenhagen, during their summer holidays, the children are encouraged to attend the large swimming bath, and are allowed to go there free of charge.

Physical training is now compulsory for all boys and girls in Denmark. In the elementary school time-tables at least two hours a week are allotted to Physical Training for children under 11; those over 11 do over three hours a week in many of the schools. Children found too weak to perform the exercises,

owing to mal-nutrition or other causes, are brought to the notice of the authorities, and are given a hot meal every other day at the school during the three winter months of January, February and March ; soup and bread-and-butter pudding one day, boiled beef the next, and pork on the third day. It is felt by the Danes to be better to go to the expense of good meals for the children rather than to allow them to miss their Physical Training. Many of the schools receive small Government grants for meals, and this fund is supplemented by private subscriptions.

#### GYMNASTICS.

The performances we witnessed of young men, boys and girls of ages ranging from seven years upwards, in the various schools and institutions, were practically the Swedish exercises as shown in the English "Syllabus," with the additional use of gymnastic apparatus such as Wall-bars, Ropes, Ladders, Horse and Buck Jumping Cord, etc.

The order almost always observed being :—

- |         |   |    |                          |
|---------|---|----|--------------------------|
|         |   | 1  | Introductory Exercises.  |
| General | { | 2  | Arch Flexions.           |
|         |   | 3  | Heaving Movements.       |
|         |   | 4  | Balance Movements.       |
| Special | { | 5  | Shoulderblade Movements. |
|         |   | 6  | Abdominal Exercises.     |
|         |   | 7  | Lateral Trunk Movements. |
| General | { | 8  | Slow Leg Movements.      |
|         |   | 9  | Leaping.                 |
|         |   | 10 | Respiratory Exercises.   |

this being the basis of Ling's System.

The reason for the observance of the above sequence can best be explained in the words of Baron Nils Posse :—

"(1) Introductions span the bridge from intellectual to physical activity.

(2) Arch-flexions cultivate the possibility of respiration by stretching the chest.

(3) Heaving movements develop the power of respiration by exercising the inspiratory muscle.

These two classes occur in the beginning of the lesson, since respiration may be said to constitute the basis of all exercise.

(4) Balance movements cultivate general equilibrium and diminish the heart beat (equalize the blood pressure), quickened by the preceding movements.

(5) Shoulder-blade movements cultivate isolation and co-ordination in movements of shoulder-blade, trunk and arms ; they also correct the student's stoop.

(6) Abdominal exercises strengthen those muscles which support the viscera : improve digestion, etc.

(7) Lateral trunk movements quicken the circulation in the large vessels of the trunk and strengthen the waist-muscles.

(8) Slow leg movements diminish the blood pressure and heart beat increased by preceding movements.

(9) Leaping includes exercises of jumping and vaulting. These cultivate elasticity, speed, co-ordination, courage and other important general qualities of the body.

(10) Respiratory exercises produce normal respiration (the leaping having put the pupil out of breath) and prepare the pupil for rest."

Breathing exercises were very frequently practised, especially after the harder kinds of drill. The various apparatus were freely used by girls as well as boys. The standard of work shown by the girls throughout was generally excellent. All seemed to thoroughly enjoy the work.

After having watched one very energetic class of girls at work, we asked them whether they felt too tired to wish to return to lessons, and received an emphatic reply in the negative. On the contrary they said "We feel all the more inclined for book-work."

It is the systematic, studied exercise of all the muscles in turn, which quickens the circulation throughout the system, and invigorates rather than fatigues, chasing away all feeling of drowsiness.

In all gymnasiums, public or private, the apparatus is invariably put into position by pupils. Great vigour and sharpness is observed over these duties, and when completed, they return to their places at the "double."

The great success of physical training in Denmark may be attributed to:—

(1) A strong national feeling, shared by all classes, that with their small population every child must be cared for and developed to the utmost, both physically and morally.

(2) The Seminary System (Training Colleges for teachers) which enforces a course of three or four years' special training for all aspirants to the teaching profession; and, Gymnastics being included in the curriculum, every teacher leaves these institutions realizing the important part physical training should play in the education of children, whether they are going actually to teach the subject or not.

(3) Short courses held during the summer holidays throughout the country, to enable those who became teachers prior to 1899 (before the compulsory seminary training) to be taught gymnastics, and to make it possible for more recently appointed teachers to refresh their memories under the easy conditions afforded to the older members of the profession.

The Danish people have great faith in their gymnastics and realize the soundness of the principle that development of mind and body must go hand in hand.

The sharp words of command, and the instant response to them by the children, quicken the perceptions and keep the mind at work.

The Swedish System is conducted on scientific principles ; within each lesson one movement is such as to prepare the way for the next ; as the child gets older, the exercises become more specialized, until the beginnings of real physical culture are reached.

One of the latest discoveries of medical science is what is known as the Opsonic Index, or the power of the white corpuscles in the blood to devour and digest, and therefore destroy, all harmful organisms. This function of the white corpuscles is largely aided by systematic physical training.

The Swedish System has the great advantage of not being wholly dependent on a gymnasium, though a building fitted up with apparatus is very desirable. The fact that free-standing exercises constitute an essential part of the System, puts it within reach of everyone. It is suitable for all ages and both sexes ; it brings about a uniform development of the whole body.

Baron Nils Posse, now Director of the Posse Gymnasium in Boston, says of it : " Swedish Gymnastics must be the basis of all rational gymnastics, since to-day it is the only system whose details have been elucidated by and derived from Mechanics, Anatomy, Physiology and Psychology, and whose theory has survived the scrutiny of scientists all over the world ; so that whatever the name or form of the gymnastics of the future, the Swedish System will be its frame, as even now we see it transforming and absorbing all so called systems."

It has a mental and moral value which cannot be over-estimated. Girls who have had the advantage of such training are thereby rendered more fitted to be the mothers of a future healthy generation.

W. H. SALMON,

*Major ; late King's Royal Rifle Corps.*

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## APPENDIX I.

## SCHOOLS VISITED.

We visited the following eighteen typical town and country educational establishments, and saw classes at work in all.

*Copenhagen.* 1. Solbergvej's School.

Elementary Communal School. Boys, 600 ; girls, 500.

2. Nyelandsvejen's School, Frederiksberg.

Elementary Communal School. Boys, 500 ; girls, 500.

3. Metropolitan School.

States Middle School and Gymnasium.

4. Gregersen's School.

Private Middle School.

(N.B. This had the first school gymnasium built in Copenhagen.)

5. Sloman's School.

Private Middle School and Gymnasium.

6. Femmer's Kvindes Seminarium.

Private Seminary for female teachers.

*Country.*

7. Davinde. Elementary Communal School.

70 scholars.

8. Kolding School (Boys).

Elementary Communal School.

9. Kolding Girls' School.

Elementary Communal School.

10. Middelfart.

Elementary Communal and Middle School.

11. Slagelse.

Elementary Communal School.

12. Slagelse.

Middle School (Communal).

13. Charlottesgade School.

Elementary Communal School, 1,000 boys.

14. Soro Academy.

States Middle School and Gymnasium. 235 young men and boy students (of these 90 are boarders).

15. Holbeck School.

Elementary Communal and Middle School. Boys, 400 ; girls, 400.

16. Frederikssundsvejen's School.

Elementary Communal School. Boys, 620 ; girls, 620.

17. Dons Shooting Union Gymnasium.

18. Mr. Paul Petersen's Gymnasium.

N.B.—Systematic Physical Exercises are carried out at all schools at least two hours a week for girls and boys. Boys from eleven to fourteen years of age in some schools do three hours a week.

## APPENDIX II.

The following is an estimate for gymnastic apparatus provided by Mr. Niels Larsen :—

Skoleinventar and Gymnastiksredskaber,  
Norrevoldgade 9,  
Copenhagen.

They are the same prices at which he supplies them to the State Schools, etc.

(N.B.—£1 equals 18 Kroner.)

(1)	Wall-bars, height 8ft., width 2½ft.	-	10	Kroner
(2)	Four Beams with Counterpoise-	-	250	"
(3)	Large Horse complete	- - -	100	"
(4)	Large Buck complete	- - -	50	"
(5)	Jumping Standards with rope	- - -	21	"
(6)	Cocoanut matting (1½ metres by 1½ metres)	- - - - -	26	"
(7)	Cocoanut Matting (1 metre by 1 metre)	- - - - -	15	"
(8)	Little Stool (13½ in. high)	- - -	3½	"
(9)	Swedish small Plinth, 5 divisions	-	45	"
(10)	" large " , leather top	-	50	"
(11)	Paddy Horse to put on Beam	- - -	30	"
(12)	Canvass padded mattress, for tumbling (16ft. by 4ft.)	- - - - -	72	"
(N.B.—Each 2ft. by 4ft. costs 9 Kroner.)				
(13)	Swab (3ft. by 3ft.) and tin tank	-	14	"
(14)	Ropes (1½ in. in diameter)			
	12 feet long	} rings at ends {	9	"
	18 feet long		12	"

Total - - - 707½ " (£39 5s. 10d.)

Mr. Larsen suggests that the dimensions for a model gymnasium for 50 pupils should be : 80 ft. long ; 40 ft. broad ; 22 ft. high.

The officially recognized text books for Gymnastics, practical and theoretical, in Denmark are :—

(1) *Gymnastik Reglement for Haeren og Flaaden.*  
By Her Knudsen. (1905).

(2) *Poul La Cour—Menneskelegemet.*  
By K. A. Knudsen and Kare Teilmann. (1904).

This is a Manual on Anatomy and Physiology as applied to Gymnastics, and is, we believe, one of the few books of this nature in existence.

(3) *Ovelseslære.* By K. A. Knudsen. (1901).

(4) *Grundsætninger for Gymnastikundervisning.*  
By K. A. Knudsen. (3rd edit. 1903).

**The following Educational Pamphlets have been issued by the Board of Education:—**

- No. 1. The State Leaving Examination in Norway: its Nature and Results. By J. S. THORNTON. (1904.)
- No. 2. Organisation of certain Artizan Evening Schools in East Lancashire. By LL. S. LLOYD, H.M.I. (1905.)
- No. 3. Modern Sides of Public Schools: (i) Harrow. By G. T. WARNER. (1905.)
- No. 4. School Doctors in Germany. By W. H. DAWSON. (1906.)
- No. 5. Finance of a County System of Secondary Schools. Report on the Cheshire Scheme. By LL. S. LLOYD, H.M.I. (1906.)
- No. 6. Continuation School Work in the Grand Duchy of Baden and in Canton Zurich. By FLORENCE E. BARGER. (1907.)
- No. 7. Modern Sides of Public Schools: (ii) Rugby. By CHARLES G. STEEL. (1907.)
- No. 8. Modern Sides of Public Schools: (iii) Eton. By A. A. SOMERVILLE. (1907.)
- No. 9. The Organisation of the Instruction in the Berlin Technical High School at Charlottenburg. Translated from the original memorandum prepared by Professor OSWALD FLAMM. [*In the press.*]
- No. 10. Modern Sides of Public Schools: (v) Dulwich. By A. H. GILKES. [*In preparation.*]
- No. 11. The Organisation of Physical Training in Sweden. By Colonel G. MALCOLM FOX and C. J. PHILLIPS, H.M.I. With a Note on the System adopted in Denmark. By Major W. H. SALMON. (1907.)
- No. 12. The Problem of Rural Schools and Teachers in North America. By Miss E. H. SPALDING. [*In the press.*]





